

REMARKS

In view of the above amendment and the following remarks, Applicant requests reconsideration of this application.

Claims 10-68 are pending in this case. As amended, claims 10, 11, 18, 19, 20, 27, 28, 29, 35, 36, 37 and 53 are the pending independent claims.

Allowed Claims

Claims 37-68 stand allowed.

Objections to Claims

The Examiner has objected to the form of each of claims 11-13, 18, 20-22, 27, 29-31 and 35-36 as being dependent upon a rejected base claim, but has stated that each of these claims would be allowable if written in independent form to include all of the limitations of the base claim and any intervening claims.

Applicant has amended claims 11, 18, 20, 27, 29, 35 and 36 to include all of the limitations of the base claim from which these claims depended before amendment. Applicant respectfully submits, therefore, that these claims are now in allowable form. These amendments are not intended to and do not narrow the scope of the amended claims. With this Response and Amendment, Applicant has submitted the additional fees required for these independent claims.

Rejections under 35 U.S.C. § 102

Bullister

Claims 10, 16, 28 and 33-34 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Bullister. Applicant has amended independent claims 10 and 28. As discussed below, Bullister does not include all of the limitations of amended claim 10 and therefore also does not include all of the limitations of claim 16, which depends from claim 10. Likewise, Bullister does not include all of the limitations of amended claim 28 and therefore also does not include all of the limitations of claims 33-34, which depend from claim 28.

Amended claim 10 recites a keyboard for a computer, which has a plurality of keys, each key including a key structure. A keyboard structure holds the plurality of

keys in place relative to one another and defines a space between adjacent key structures of at least two of the plurality of keys. A computer component other than a keyboard component is at least partly disposed in the space between the adjacent key structures. The claim has been amended to further recite that the computer component is so disposed “when the keyboard is in an operative position for inputting information to the computer.” Support for the amendment adding the quoted language can be found at page 17 of the application and in Fig. 4, which shows the keyboard in the operative position for inputting data to the computer.

Bullister discloses a collapsible keyboard 12 with two keyboard sections 16, 18 that are connected by link hinges. Each of the keyboard sections has a plurality of key structures 32. When the keyboard is in a closed position (Fig. 2), a display 26 is disposed between the key structures of the separate keyboard sections. When the keyboard is in an open position (Fig. 1) for inputting data, the display 26 is not disposed between the key structures. Consequently, Bullister does not anticipate the keyboard of amended claim 10, and Applicant respectfully submits that claim 10 is allowable over Bullister.

Claim 16 depends from claim 10, and includes all of the limitations of claim 10. As discussed above, Applicant respectfully submits that claim 10 is allowable over Bullister. Therefore, Applicant also respectfully submits that claim 16 is allowable over Bullister.

Amended claim 28 recites a keyboard for a computer having a plurality of keys. Each key of the plurality of keys has a key structure supporting a key cap. The key structures and the key caps define a section key space. The keyboard includes a keyboard structure for holding the plurality of keys in place relative to one another. A computer component other than a keyboard component is at least partly disposed in the section key space. The claim has been amended to further recite that the computer

component is so disposed “when the keyboard is in an operative position for inputting information to the computer.”

In the application at page 24, Applicant has described the “section key space” as that space defined by a bounded upper key cap plane and a bounded lower key plane, with a lateral side consisting of the pseudocylindrical surface defined by the boundaries of the upper key cap plane and the lower key plane. Even if the space between the Bullister folded keyboard sections 16, 18 (as shown in Fig. 2) were such a space, Bullister would not anticipate the keyboard of claim 28. As explained above, Bullister does not show the display disposed in the section key space when the keyboard is in an operative position for inputting information to the computer. Consequently, Applicant respectfully submits that claim 28 is allowable over Bullister.

Each of claims 33 and 34 depends from claim 28, and includes all of the limitations of claim 28. Because as discussed above, claim 28 is allowable over Bullister, Applicant also respectfully submits that claims 33 and 34 are allowable over Bullister.

Weeks

Claims 10, 15, 19 and 24 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Weeks. Applicant respectfully traverses this rejection.

Weeks discloses a keyboard 10 having a microphone input device 21 between the “T” key and the “Y” key of the top key row 102.

As discussed above, claim 10 recites, among other limitations, a computer component other than a keyboard component that is at least partly disposed in the space between the key structures. The Examiner has read this limitation to include the microphone 21 of Weeks. As disclosed in Applicant’s specification at page 5, however, a “computer component” includes “Microchips, Passive Components, Storage Means, Output Means, and Power Means” as those terms are defined in the specification at pages 3-5. Significantly, those terms are not defined to include input means such as a

microphone for receiving voice commands. Thus, Weeks does not disclose a “computer component” (as that term is used in the application) disposed in the space between the key structures. Consequently, Weeks does not anticipate the keyboard of claim 10, and applicant respectfully submits that claim 10 is allowable.

Claim 15 depends from claim 10, and includes all of the limitations of claim 10. Because claim 10 is allowable over Weeks, Applicant also respectfully submits that claim 15 is allowable over Weeks.

Amended claim 19 recites a computer system including a central processing unit, output means for outputting data from the computer and a keyboard. The keyboard includes a plurality of keys, each having a key structure. The keyboard also includes a keyboard structure holding the plurality of keys in place relative to one another and defining a space between adjacent key structures of at least two of the plurality of keys. A computer component other than a keyboard component is at least partly disposed in the space between the adjacent key structures. As explained above, the term “computer component” does not include input means such as the Weeks microphone. Thus, Applicant respectfully submits that Weeks does not anticipate the keyboard of claim 19 and that claim 19 is allowable over Weeks.

Claim 24 depends from claim 19, and includes all of the limitations of claim 19. Because Applicant respectfully submits that claim 19 is allowable over Weeks, Applicant also respectfully submits that claim 24 is allowable over Weeks.

Ishizawa

Claims 10, 16-17, 19 and 25-26 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Ishizawa, et al. Applicant respectfully traverses this rejection.

Amended claim 10 recites a keyboard including, among other limitations, a computer component other than a keyboard component that is at least partly disposed in the space between adjacent key structures.

Ishizawa discloses a keyboard 4 having input keys 3 in two sets 30, 30a and an antenna 15, which serves as a transmitter-receiver. The antenna 15 is mounted on the keyboard 4 rearward of the key sets 30, 30a. The antenna is not mounted between adjacent key structures (e.g., between a key in the rightmost column of set 30 and the mirror key in the leftmost column of set 30a. Thus, Applicant respectfully submits that Ishizawa does not teach or suggest such a keyboard and that claim 10 is allowable over Ishizawa.

Each of claims 16 and 17 depends from claim 10, and includes all of the limitations of claim 10. Because claim 10 is allowable over Ishizawa, Applicant also respectfully submits that claims 16 and 17 are allowable over Ishizawa.

Amended claim 19 recites a keyboard including, among other limitations, a computer component other than a keyboard component that is at least partly disposed in the space between adjacent key structures. As discussed above, Applicant respectfully submits that Ishizawa does not teach or suggest such a keyboard. Therefore, claim 19 is allowable over Ishizawa.

Each of claims 25-26 depends from claim 19, and includes all of the limitations of claim 19. Because claim 19 is allowable over Ishizawa, Applicant also respectfully submits that claims 25-26 are allowable over Ishizawa.

Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 14 and 23 under 35 U.S.C. § 103(a) as being unpatentable over Weeks in view of Stoffel et al. Applicant respectfully traverses this rejection.

Claim 14 depends from and includes all of the limitations of claim 10. Claim 14 further recites that the computer component disposed between the key structures comprises an integrated circuit.

Claim 23 depends from and includes all of the limitations of claim 19. Claim 23 further recites that the computer component disposed between the key structures comprises an integrated circuit.

As discussed above, Weeks discloses a keyboard 10 having a microphone input device 21 between the “T” key and the “Y” key of the top key row 102. Stoffel et al. discloses a miniature microphone having an integrated circuit on a single chip for signal amplification. Stoffel discloses that such miniature microphones are used for hearing aids (col. 1, lines 8-10).

Obviousness cannot be established unless there is some teaching, suggestion or motivation to modify the reference to produce the claimed invention. In re Fine, 5 USPQ2d 1596, 1599 (Fed. Cir. 1988); MPEP § 2143.01. As the Examiner notes, Weeks does not disclose disposing an integrated circuit between the keyboard key structures. Applicant respectfully contends that there is nothing in the prior art that would have motivated one of ordinary skill to replace the computer microphone of Weeks with the hearing aid microphone of Stoffel to achieve the claimed invention.

Moreover, even if it were proper to combine Weeks and Stoffel, the combination of those references does not teach or suggest all of the limitations recited in the subject claims. A finding of obviousness requires that all claim limitations of the Applicant’s invention must be taught or suggested by the prior art. In re Royka, 180 USPQ 580 (CCPA 1974); MPEP § 2143.03. As explained above, however, the microphone of Weeks is not a “computer component” (as that term is used in the application) disposed in the space between the key structures. Thus, there is no teaching or suggestion whatsoever in Weeks and Stoffel et al. to utilize the space between key structures to locate “computer components” as that term is used in claims 14 and 23. Therefore, Applicant respectfully submits that claims 14 and 23 are allowable.

The Examiner has rejected claim 32 under 35 U.S.C. § 103(a) as being unpatentable over Bullister in view of Hirakata. Claim 32 depends from and includes all

of the limitations of claim 28. As discussed above, claim 28 has been amended to recite that the computer component other than a keyboard component is at least partly disposed in the section key space when the keyboard is in an operative position for inputting information to the computer. Neither Bullister nor Hirakata teaches or suggests a keyboard having this limitation. Therefore, Applicant also respectfully submits that claim 32 is allowable over Bullister in view of Hirakata.

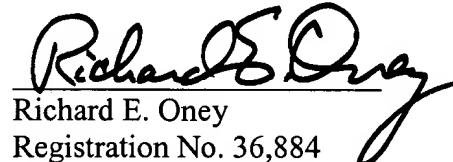
Conclusion

For the foregoing reasons, Applicant submits that the claims 10-36 are in allowable form. Applicant therefore requests reconsideration and allowance of these claims.

The Examiner is invited to telephone the Applicant's undersigned attorney at (602) 916-5303 if this would in any way facilitate prosecution of the application.

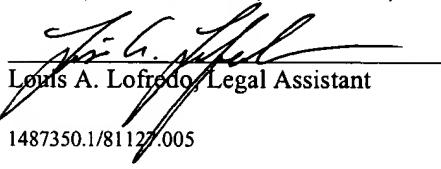
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Second Response and Amendment
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